

Rhodora

JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

Vol. 51.

July, 1949

No. 607

NOTES ON DISTRIBUTION OF NORTH CAROLINA PLANTS—I

WILLIAM B. FOX AND R. K. GODFREY

THE collections of the plants cited herein were, for the most part, made during the growing seasons of 1947 and 1948. Plants included may be placed in three categories: *viz.*, those believed to have been previously unreported for North Carolina, those previously reported but for which there are no documenting specimens in the larger herbaria in the state, and those the range of which is extended within the state. We have not made an exhaustive search of the larger herbaria outside the state but have based our observations on the literature at our disposal and upon an examination of the respective herbaria of the University of North Carolina, Duke University, and North Carolina State College. Specimens cited here are deposited in the herbarium of the last mentioned institution, unless otherwise indicated. It is believed that, though a thorough search of other herbaria might yield specimens that would have some bearing on the knowledge of the distribution in North Carolina of some of the species included, the records cited here will be of value to persons interested in the flora of North Carolina and to monographers of any of the groups involved.

Infrequently used references, to journal papers, etc., are cited in parentheses in the text, and these are not included in the appended bibliography. Other references, to manuals and monographs, are cited by the authors' names and date of publication, and these are listed in the bibliography. The genera

listed follow the order in Gray's Manual, 7th ed., and within genera the species are listed alphabetically.

We wish to express here our appreciation to members of the botany departments of the University of North Carolina and Duke University, respectively, for frequent use of their facilities.

RHYNCHOSPORA BALDWINII Gray. BRUNSWICK COUNTY: roadside ditch, margin of wire-grass savanna, along Caswell Beach road near Inland Waterway, June 20, 1948, *Godfrey* 48208.

This is a fourth station in southeastern North Carolina, the northern limit of the range for the species. Gale (1944) cites specimens from Onslow, Pender, and New Hanover Counties.

RHYNCHOSPORA DEBILIS Gale. ONSLOW COUNTY: grass-sedge savanna, 2.5 miles south of Maysville on U. S. Rt. 17, July 3, 1948, *Godfrey* 48302.

Gale (1944), when describing *R. debilis*, had a good representation of specimens from southeastern Virginia, only three from North Carolina, few from the other states in its range southward to Florida and Alabama. Those she cites from this state are from Hyde and Carteret Counties, and one of Curtis' from an unknown locality.

RHYNCHOSPORA DIVERGENS Chapm. CARTERET COUNTY: excavated area in wire-grass savanna, 3 miles southeast of Newport, along U. S. Rt. 70, June 15, 1948, *Godfrey* 48195; COLUMBUS COUNTY: exsiccated, shallowly excavated area in wire-grass savanna, 3 miles northwest of Old Dock, along N. C. Rt. 130, September 4, 1948, *Godfrey* 48486.

Range extended northward from South Carolina, the general range, according to Small (1933), being from S. C. to Fla. and La., on the coastal plain.

RHYNCHOSPORA GRACILENTA Gray. PAMLICO COUNTY: in a cane-brake shrub-bog, between N. C. Rt. 306 and the Neuse River, 2.5 miles southwest of Arapahoe, July 1, 1948, *Godfrey* 48276; BLADEN COUNTY: depression in savanna, 5 miles north of White Lake, July 7, 1946, *Blomquist* 13925 (in herb. Duke); WAKE COUNTY: sphagnous, pastured, boggy area at Method, west of Raleigh, September 24, 1948, *Godfrey and Fox* 48552; BRUNSWICK COUNTY: burned-over shrub-bog, in peat and sand, just off of N. C. Rt. 130 on Caswell Beach road, August 20, 1948, *Godfrey* 48425.

Gale (1944) refers to this plant as "common along the coastal plain from New Jersey to southeastern Virginia; apparently more scattered in the Carolinas and Georgia . . . ," and she cites four North Carolina collections, three from the coastal plain and one from the Appalachian Plateau.

RHYNCHOSPORA MICROCARPA Baldw. ex Gray. HYDE COUNTY: upper marsh, Lake Mattamuskeet, August 31, 1948, *R. R. Rudolph* 14-84.

According to Gale (1944), the only collection from north of Georgia was one of Curtis' from Wilmington, N. C., cited by Gray in the type description.

RHYNCHOSPORA MIXTA Britton. PAMLICO COUNTY: large clumps in deep woods' mold in a small branch-bay, near Neuse River below Minnesot Beach, July 26, 1948, *Godfrey* 48279.

Gale (1944) cites but three North Carolina collections, one each from Pasquotank, Beaufort, and Brunswick Counties. In North Carolina the species reaches its northern known limit.

RHYNCHOSPORA PERPLEXA Britton. HYDE COUNTY: upper marsh, Lake Mattamuskeet, June 24, 1948, *R. R. Rudolph* 2-84; COLUMBUS COUNTY: small clumps in a swamp-clearing, north-west side of Waccamaw River, along N. C. Rt. 130, September 4, 1948, *Godfrey* 48492.

Though this species is known on the coastal plain from Virginia southward to Florida and to eastern Texas, Gale (1944) had but one North Carolina specimen, this from Columbus County.

LILIUM CATESBAEI Walt., var. *LONGII* Fern. WAKE COUNTY: Method Bog (a pastured, sphagnous, boggy swale) near SAL R. R., just west of Raleigh, August 16, 1948, *Fox* 1826 (in flower); same locality, September 24, 1948, *Godfrey and Fox* 48548 (in fruit).

This variety has been reported for several counties in the coastal plain (*RHODORA* 42: 443, 1940), but this locality extends it inland considerably, definitely into the piedmont. Four other plants are listed in this paper from the above locality, the ranges of which, according to the literature, are restricted to the coastal plain. They are *Rhexia ciliosa* Michx., *Sabatia gentianoides* Ell., *Eupatorium cordigerum* Fern., and the next.

ALETRIS AUREA Walt. WAKE COUNTY: Bog (near Method), Raleigh, June 12, 1938, *Godfrey* 4609; near base of slope, border of old field and cane-brake, n. of Meredith College, Raleigh, June 28, 1948, *Fox* 1757.

Small (1933) limits the range of this species to the coastal plain, and Blomquist and Oosting (1948) do not include it as a part of the piedmont flora.

QUERCUS BICOLOR Willd. GUILFORD COUNTY: low ground, on South Buffalo Creek, on U. S. Rt. 70, about 3 miles e. of Greensboro, October 1, 1948, *Fox and Godfrey* 1995.

This oak, apparently infrequent in the piedmont section of the state, has been reported from Person, Granville, and Davie Counties (Coker and Totten, 1945). *Q. prinus* L., infrequently seen this far from the coastal plain, was also collected at this locality.

Q. LYRATA Walt. DAVIDSON COUNTY: creek-bank, 1½ mi. e. of High Rock, July 26, 1947, *Fox* 644.

Common in the coastal plain, this oak has been reported as far inland as Anson County (Coker and Totten, 1945). This collection represents a considerable extension into the piedmont.

Q. PHELLOS L., forma INTONSA Fernald (RHODORA 44: 392, 1942). NORTHAMPTON COUNTY: several large trees, Roanoke River valley, n. of U. S. Rt. 258 bridge, May 22, 1948, *Fox and Godfrey* 1605; HERTFORD COUNTY: mixed forest, compartment 31, Bigwoods Experimental Forest, e. of Como, August 11, 1948, *Woods and Moreland* BWO41A; wooded, swampy area, on U. S. Rt. 258, ¾ mi. s. w. of Como, October 24, 1948, *Fox, Boyce, and Moreland* 2107; GRANVILLE COUNTY: flood-plains, Little River region, July 10, 1942, *K. Ashley* 429 (in herb. Duke).

This striking variant of the usually glabrous-leaved *Q. phellos*, reported for two southeastern Virginia counties, is described as having the leaves uniformly and permanently tomentulose beneath. At the Northampton County location cited, there are several large trees of this form, some over 2 feet in diameter. Most of the individuals of this species in the immediate locality seemed to be of this pubescent-leaved form. This colony was revisited on October 24, and an examination of the leaves showed them to be essentially as pubescent as they were when seen in

May, thus leaving no doubt as to the permanence of the pubescence.

QUERCUS PUMILA Walt. PENDER COUNTY: in dense clumps scattered in long-leaf pine savanna, near U. S. Rt. 421, 1 mi. s. e. of county line, October 29, 1948, *Fox and Godfrey* 2138; COLUMBUS COUNTY: savanna, 0.7 mi. n. of Wananish R. R. station, August 28, 1948, *Fox and Whitford* 1874; BLADEN COUNTY: savanna, n. of N. C. Rt. 211, 2.1 mi. n. e. of Columbus County line, August 28, 1948, *Fox and Whitford* 1866.

The range of this species is given by Small (1933) as extending into North Carolina, but its representation in the principal N. C. herbaria indicates that it has been little collected here. Two additional collections are known to us, from Columbus and Bladen Counties, both in the herbarium of the University of North Carolina.

Q. VIRGINIANA Mill., forma *MACROPHYLLA* (Sargent) Trelease. BRUNSWICK COUNTY: wooded bank of Cape Fear R., about one mile above Southport, July 11, 1947, *Fox and Wells* 471.

A single tree, about 20 feet tall and with trunk 3 inches in diameter near the base, growing on a low, sandy ridge with typical *Q. virginiana* nearby, seems to belong to this form. Though originally known only from Atascosa County, Texas, trees have been reported from Princess Anne County, Virginia, by Fernald (*RHODORA* 43: 550, 1941). Leaves of our tree have somewhat larger dimensions than those given in the original description, twelve of the larger leaves from a small series of specimens collected averaging 11.9 cm. long and 4.9 cm. wide. The largest leaf found is 18 cm. long and 7.7 cm. wide. The twigs, petioles, undersurface of leaves, etc., are densely pale-tomentose.

QUERCUS VIRGINIANA Mill., var. *GEMINATA* (Small) Sarg. CARTERET COUNTY: in white, coarse sand, w. end of Harker's Island, September 12, 1947, *Fox, Whitford, and Scofield* 1179.

We have seen several specimens of this variety from Brunswick and New Hanover Counties, but we know of no collections recorded from north of the Wilmington area.

PLANERA AQUATICA Gmel. COLUMBUS-BRUNSWICK COUNTY: common on Waccamaw R. banks, just above N. C. Rt. 130 bridge, July 14, 1947, *Fox and Wells* 507.

The range of this plant is reported as extending into this state by various authors, but in the larger herbaria in the state there are no specimens representing collections in North Carolina. Therefore, it seems worthwhile to list this one and to record the fact that for several miles along both sides of the Waccamaw R. above the bridge mentioned, it is one of the common stream-margin trees.

FROELICHIA FLORIDANA (Nutt.) Moq. PAMLICO COUNTY: abundant in sandy old field at Minnesot Beach, July 2, 1948, *Godfrey* 48297; old sandy field, July 10, 1933, *Oosting* 33220 (in herb. Duke); HOKE COUNTY: along highway near Morse Cr. (?), July 20, 1937, *C. L. Neuman*; NEW HANOVER COUNTY: on causeway, sandy soil, August 24, 1931, *Blomquist* 3577 (in herb. Duke).

Not heretofore recorded for North Carolina, the range of this plant is given by Small (1933) as "Coastal Plain, Fla. to Miss. and Ga., adv. in Del." Smith (Journ. Elisha Mitch. Sci. Soc. **62**: 81, 1946) has reported it for Darlington County, South Carolina.

RANUNCULUS SEPTENTRIONALIS Poir. WAKE COUNTY: swampy peninsula on the Neuse River at Falls of the Neuse, April 8, 1937, *Godfrey*: alluvium in depressions back of natural levee along Neuse River, east of Raleigh, April 11, 1948, *Godfrey* 48010; CHATHAM COUNTY: flood-plain of New Hope Creek, beech woods, along U. S. Rt. 64, east of Pittsboro, April 25, 1948, *Godfrey, Fox, & Campana* 48058.

Blomquist and Oosting (1948) do not include this species although they do include *Ranunculus hispidus* Michx. The populations which our specimens represent are of plants which have a definite procumbent habit, only a sparse pubescence, and fruits which have conspicuously wide margins. This is in contrast to the erect habit, usually dense pubescence, and narrowly margined fruits of *R. hispidus*.

MAGNOLIA ACUMINATA L. STOKES COUNTY: creek-bank, near N. C. Rt. 89, just e. of Danbury, August 19, 1947, *Fox* 840.

We include this collection because we believe the station to be farther from the mountains than any other authentic report for this species.

M. CORDATA Michx. (*M. acuminata*, var. *cordata* Sarg.). RANDOLPH COUNTY: on rocky slope near Rt. 13, about $\frac{1}{2}$ mi. n.

of Park's Crossroads, July 27, 1947, *Fox* 659; rocky bluff, 1.3 mi. n. of Park's Crossroads, Apr. 25, 1948, *Fox, Godfrey, & Campana* 1353; STANLY COUNTY: upland woods, near road to lower dam, 1½ mi. e. of Badin, May 7, 1948, *Fox, Godfrey & Boyce* 1405.

This little-understood *Magnolia*, the status of which has recently been discussed by Coker (*Jour. Elisha Mitchell Sci. Soc.* **59**: 81–88, 1943) and Duncan (*Castanea* **13**: 75–77, 1948), has been previously known from two counties in North Carolina; viz., Anson and Moore. These collections extend its range somewhat northward in the Yadkin River drainage. Since size has been considered of significance in distinguishing this species (or variety) from the Appalachian and more northern *M. acuminata* (and its var. *aurea* Ashe), it is probably worthwhile to note that the second Randolph Co. collection, *Fox, et al.* 1353, was from a tree 45–50 feet tall and, at breast height, 17 inches in diameter.

M. MACROPHYLLA Michx. WAKE COUNTY: lake-shore, Lake Johnson, July 13, 1938, *Godfrey* 5016.*

Coker and Totten (1945) referred to this collection, indicating that it extended the species far out of its presently known range, and adding further, "We assume that this was wild but there is no note on the label to this effect." We take this opportunity to resolve any feeling of doubt about its "wildness." The station at Lake Johnson is at about the summit of a north-facing bluff on the lake in an area of second growth hardwood forest. It was revisited by the authors within the past year, when the specimen, which consists of several vigorous shoots from an old tree-base, was relocated. We also found a small seedling a few hundred yards away on an east-facing slope.

MAGNOLIA TRIPETALA L. CRAVEN COUNTY: mesic woods, on Neuse River near Flanner's Beach (about 10 miles s. e. of Newbern), Aug. 30, 1947, *Fox & Whitford* 1113; PAMLICO COUNTY: woodland, near Neuse R., below Minnesot Beach, July 24, 1948, *Godfrey* 48345.

* The few Godfrey collections of 1938 cited in this paper are from a large series of North Carolina specimens assembled by the co-author in the summer of 1938 for the Arnold Arboretum and the Gray Herbarium of Harvard University. No report was ever published exclusively based upon those collections, but in the ensuing years reference has been made to a great many of them in monographic treatments, and in papers of a phytogeographic nature.

Though fairly common in the piedmont, this species is apparently infrequent in the lower coastal plain. These locations are closer to the coast than any others that have been reported except for Curtis' inclusion in his list for the Wilmington area (1834) and later listing (as *M. umbrella* Lam.) for that area by Wood and McCarthy (1886). Croom and Loomis (1833) include it in their New Bern catalogue. The Pamlico County location is only about 12–15 miles from the main body of Pamlico Sound. There is a specimen in the herbarium of Duke University collected in Perquimans County in 1932 by M. Glasson, but the exact locality is not given.

LATHYRUS PALUSTRIS L., var. GENUINUS Gren. & Godr.
WASHINGTON COUNTY: climbing on vegetation, wet woodland, near pumping station on Roanoke River, above paper mill at Plymouth, May 21, 1948, *Fox & Godfrey* 1538.

Only one of the varieties of this widespread species, as delineated by Fernald (in RHODORA **13**: 47–52, 1911), is given as ranging as far south as North Carolina; viz., *L. palustris* L., var. *myrtifolius* (Muhl.) Gray (*L. myrtifolius* Muhl. of Small's manual). Even this variety is admitted by Small to the "Coastal Plain only N." Curtis (1834) lists *L. palustris* for the Wilmington area but in his later publication (1867) lists *L. myrtifolius* Muhl. for "Low. Dist." Croom (1837) lists *L. palustris* for New Bern and vicinity. Wood and McCarthy (1886) list "*L. paluster*, Linn., var. *myrtifolium*, Gray." Our plants are very likely adventitious, since they are in an area that seems to have been very much disturbed in recent years, due to paper-mill operations. However, they are well-established and apparently thriving. Typical *L. palustris* (or var. *genuinus*) occurs as far south in the east as northern Pennsylvania, according to a map published by Fassett (1939), presumably based on a study of specimens in several of the major herbaria.

POLYGALA HOOKERI T. & G. CARTERET COUNTY: savanna at Newport, Aug. 6, 1938, *Godfrey* 5784; ONSLOW COUNTY: moist soil, waste ground, Verona, July 21, 1922, *Randolph and Randolph* 940 (distributed as *P. brevifolia*); savanna, 5 miles east of Jacksonville, Aug. 6, 1938, *Godfrey* 5817; savanna, 12 miles north of Jacksonville, Aug. 6, 1938, *Godfrey* 5732; Hoff. Forest, Deppe, Aug. 17, 1944, *R. W. Collins*: grass-sedge savanna, 2.5

miles south of Maysville, along U. S. Rt. 17, July 3, 1948, *Godfrey* 48301; PENDER COUNTY: "Big Savanna," July 2, 1924, *B. W. Wells*: NEW HANOVER COUNTY: open woods, wet sandy soil, July 18, 1927, *W. H. Munter*: COLUMBUS COUNTY: savanna near Old Dock, Aug. 29, 1938, *Godfrey* 6330; BRUNSWICK COUNTY: wire-grass (*Aristida stricta*) savanna, Orton Plantation, 10 miles north of Southport, Aug. 21, 1941, *Godfrey and Hodge* (*Plantae Exsiccatae Grayanae*, No. 1153).

All of the citations given here are from the Gray Herbarium* except Wells' from Pender County and Godfrey's No. 48301. These are in the N. C. State College Herbarium.

The range of the species is here extended northward from the coastal plain of western Florida. We can record it here also for South Carolina; grass-sedge bog or savanna, 12 miles north of Georgetown, Georgetown County, June 23–24, 1939, *Godfrey and Tryon* 49 (in herb. Gray).

ACER SACCHARINUM L. MARTIN COUNTY: common, bank of Roanoke River, e. of Hamilton, May 21, 1948, *Fox & Godfrey* 1502. EDGECOMBE COUNTY: bank of Tar R. about 5 mi. above bridge north of Heartsease, June 17, 1948, *Fox & Whitford* 1742.

Coker and Totten (1945) regard this maple as "rare and local" in the piedmont and coastal plain of North Carolina. They report it for Northampton Co., farther up the Roanoke River. It is very plentiful along this river near Hamilton, but the Edgecombe County collection was from the only tree of this species observed on an estimated thirty-mile canoe trip on a portion of the Tar River between Rocky Mount and Tarboro. Croom (1837) lists this species (as *A. dasycarpum* Ehrh.), but his catalogue included both native and naturalized plants, with no distinction made.

HIBISCUS PALUSTRIS L. (sensu Fernald in *RHODORA* 44: 269, 1942). MOORE COUNTY: swamp of Little River, on U. S. Rt. 1, ½ mi. n. of Lakeview, July 25, 1947, *Fox* 585; WAKE COUNTY: swampy, low, moist soil along highway, Varina-Angier, July 15, 1935, *Correll & Blomquist* 2515 (in herb. Duke).

Fernald gives the range of this species, as he defines it, as extending southward to eastern Virginia.

* Prof. Fernald very kindly examined the material of *P. Hookeri*, *Rhexia ciliosa*, and *Sabatia gentianoides* in the Gray Herbarium and furnished us with the citations of specimens deposited there.

STEWARTIA MALACHODENDRON L. HERTFORD COUNTY: mixed pine-hardwood forest, 2 mi. w. of Camp P-D, near Bigwoods Experimental Forest, August 26, 1948, *F. W. Woods & D. E. Moreland*.

This species, apparently local in its occurrence, has been reported from nearby counties in N. C. and Va. This collection is cited because, according to the collectors, the forest undergrowth over an area of several acres is dominated by this shrub.

RHEXIA CILIOSA Michx. WAKE COUNTY: Sphagnous bog at Method, July 13, 1938, *Godfrey* 4984 (in herb. Gray); "Method Bog," near SAL R. R., just w. of Raleigh, Aug. 18, 1948, *Fox* 1829.

Though listed by Curtis (1867) for the "Low. and Mid. Districts," this species, frequently flowering in July, is not included by Blomquist and Oosting (1948). Small (1933) restricts its range to the coastal plain. The above collections, both from the same locality, are the only ones from the Piedmont region of which we are aware.

OXYPOLIS TERNATA (Walt.) Heller. PENDER COUNTY: savanna, about 1 mile n. of Burgaw, October 19, 1940, *Radford* 705 (in herb. U. N. C.); grass-sedge savanna, along U. S. Rt. 421, south of Harrell's Store, 1 mile from the Sampson County line, October 29, 1948, *Godfrey & Fox* 48719; BRUNSWICK COUNTY: grass-sedge bog in depression in pine-barren, The Oaks Plantation, October 4, 1941, *Godfrey* 10107 (in herb. U. N. C.); grass-sedge savanna, along road to Caswell Beach, very near its junction with N. C. Rt. 130, October 22, 1948, *Godfrey* 48690.

These collections are enumerated in view of Fernald's statement (RHODORA 41: 552, 1939) that there were at that time (when he was reporting the plant for tidewater Va.) only two North Carolina specimens in the Gray Herbarium and the New York Botanic Garden Herbarium, few others except from Apalachicola, Florida. At the two localities in which we made our 1948 collections, although the filiform plants were difficult to see in the dominantly grassy vegetation, numerous plants were to be found scattered over the areas. Many were in excellent fruiting condition, too, which was in contrast to the experience of the Virginia collectors, who found no mature fruiting specimens, a fact which prompted Fernald to suggest the absence of "the right insect to insure pollination."

GAULTHERIA PROCUMBENS L. ONSLOW COUNTY: cleared area, $\frac{1}{4}$ mi. w. of Camp Cowhorn, Hofmann Forest, May 26, 1948, *Steve G. Boyce* 677; JONES COUNTY: roadside, road to experimental pastures, April 29, 1948, *Boyce & Woods* 563.

Apparently quite infrequent in the outer piedmont and coastal plain of N. C., the range of this plant is given by Small (1933) as "in coastal plain only northward." Yet it appears in Croom and Loomis' New Bern catalogue (1833) and was reported for Wilmington by Wood and McCarthy (1886).

LYSIMACHIA NUMMULARIA L. NORTHAMPTON COUNTY: cart-road, low ground, Roanoke R. Valley, just above U. S. Rt. 258, May 22, 1948, *Fox & Godfrey* 1609; WAKE COUNTY: low ground near pond, Crabtree Creek Park, May 15, 1948, *Fox & Whitford* 1437.

This naturalized plant is well established at these localities, both isolated from any present habitations. It is either very uncommon or has escaped notice in the coastal plain and outer piedmont of this state, since there are no specimens from these regions in the local herbaria. Davidson, Haywood and Macon Counties are the only N. C. counties represented. The earliest report of this species for N. C. seems to be that of M. E. Hyams (*Jour. Elisha Mitchell Sci. Soc.* **2**: 74, 1885).

BUMELIA LYCIOIDES (L.) Pers. BLADEN COUNTY: wooded river bank, on Cape Fear River, below ferry n. e. of Carvers, August 28, 1948, *Fox & Whitford* 1860; CRAVEN COUNTY: sandy bank of Neuse River, near mouth of Batchelder Creek, $1\frac{1}{2}$ mi. n. of New Bern, August 31, 1947, *Fox & Whitford* 1126; CARTERET COUNTY: sand, near Bogue Sound, Camp Glenn, s. of Morehead City, August 30, 1947, *Fox & Whitford* 1107; maritime woods, Shackelford Banks, point opposite Beaufort, September 11, 1947, *Fox, Whitford, & Scofield* 1146; DARE COUNTY: sand, behind low dunes, w. of freshwater pond, Nag's Head, June 29, 1947, *Fox & Whitford* 380.

This small tree, judging from collections cited by Clark (A revision of the genus *Bumelia* in the United States, *Ann. Mo. Bot. Gard.* **29**: 1942) and localities mentioned by Coker and Totten (1945), has previously been collected in the coastal plain of N. C. only in the vicinity of Wilmington in the southeastern corner of the state and on Church's Island in the northeasternmost county in the state. However, it is, strangely enough,

known from the piedmont counties, Lincoln, Stanly, and Rowan. Croom and Loomis (1833) list it for New Bern (Craven County). Clark states that it is widespread but infrequently collected; Coker and Totten state that it is "local" and "rarely seen." After considerable collecting in the coastal plain, we are inclined to the view that it occurs frequently all along the N. C. coast but is quite rare in the inner coastal plain.

SABATIA GENTIANOIDES Ell. WAKE COUNTY: "Method Bog," SAL R. R., just w. of Raleigh, August 18, 1948, *Fox* 1828; JOHNSTON COUNTY: pine-barren, s. of Selma, July 28, 1933, *E. V. Deans, Jr.* (in herb. U. N. C.); BLADEN COUNTY: savanna on N. C. Rt. 211, 2.1 mi. n. e. of Columbus County line, Aug. 28, 1948, *Fox & Whitford* 1867; PENDER COUNTY: savanna, Burgaw, Aug. 7, 1938, *Godfrey* 5924 (in herb. Gray); margin, "Big Savanna," July 24, 1925, *B. W. Wells*: Holly Shelter, margin of swamps, Aug. 5, 1884, *W. W. Ashe* (in herb. U. N. C.); DUPLIN COUNTY: savanna, 8 mi. w. of Richlands, Aug. 6, 1938, *Godfrey* 5874 (in herb. Gray); CARTERET COUNTY: savanna at Newport, Aug. 6, 1938, *Godfrey* 5789 (in herb. Gray); moist, sandy soil, waste ground, Bettie, July 17, 1922, *L. F. & Fannie R. Randolph* 804 (with note, "Extends range from Georgia"—in herb. Gray); counties not given on labels: near Wilmington, Aug. 23, 1931, *Mrs. Wells* (in herb. U. N. C.); near Folkstone, July 25, 1933, *E. J. Alexander* (in herb. U. N. C.); habitat in Oriente Carolina Septentrionalis, August, 1885, *McCarthy* (as *S. chloroides* Pursh, in herb. U. N. C., duplicate also in herb. Gray); low meadow, near Jackson, Aug. 1935, *William Rhoades* (in herb. Gray).

Though this species is listed for the Wilmington area by Curtis (1834) and by Wood and McCarthy (1886) and for "Low. Dist." by Curtis (1867), Small gives the range (as *Lapithea gentianoides* (Ell.) Griseb.) as "coastal plain, Fla. to Tex. and Ga." This plant has been confused by most local students with *S. dodecandra* (L.) BSP. (*S. chloroides* Pursh), probably because both have the calyx and corolla 7-12 parted and have linear-lanceolate leaves. However, according to manuals, *S. gentianoides* has sessile or subsessile flowers in a congested cyme and the anthers are not coiled, characters which have led Small to retain it in a separate genus, whereas *S. dodecandra* has pedicelled flowers in panicles and has coiled anthers. Fernald (RHODORA 44: 1942) states that *S. dodecandra* is a plant of brackish, tidal shores; while *S. gentianoides*, where we have seen it, is a plant of savannas, small bogs, or pinelands. The speci-

mens listed are considered as representative and do not include all N. C. specimens of *S. gentianoides* that we have examined. Considering the early references to this plant for the Wilmington area and the older collections of Ashe, McCarthy and the Randolphs listed above, we are at a loss to understand why Small (1933) failed to extend the range into North Carolina.

LEONOTIS NEPETAEFOLIA R. Br. WAKE COUNTY: low, moist area in pasture near small creek on N. C. Rt. 55, 3 mi. n. w. of Fuquay Springs, October 12, 1948, *Fox & Godfrey* 2074.

This exotic mint, previously unrecorded for North Carolina, is apparently well established at this location. In the herbarium of the University of North Carolina are specimens from Darlington and Chesterfield Counties, South Carolina, the nearest locations to the Wake Co. station of which we are aware.

MACBRIDEA PULCHRA Ell. SAMPSON COUNTY: wet flat near creek, Mingo Swamp, on U. S. Rt. 421, August 29, 1948, *Fox & Whitford* 1911; COLUMBUS COUNTY: lowlands, near Whiteville, August 16, 1927, *P. O. Schallert* 9398 (in herb. Duke).

Small (1933) gives the range of this mint as extending as far north as North Carolina. Croom and Loomis (1833) report it for Lenoir Co., and Curtis (1834) lists it for the Wilmington area. Wood and McCarthy (1886) describe it as "rare" and mention one locality near Wilmington. The two collections cited above are the only ones for this species found in the three state herbaria examined.

SPHENOCLEA ZEYLANICA Gaertn. HYDE COUNTY: mud-flat, exposed only during summer months, Lake Mattamuskeet, September 9, 1948, *R. R. Rudolph* 1-110.

According to Small (1933), this is a naturalized species in the coastal plain, La. to Ark.; it may have become established here from seed brought in with those of other plants sown for wild fowl food.

EUPATORIUM ANOMALUM Nash. PAMLICO COUNTY: old field, coarse sand, sandy ridge, 2 miles southwest of Arapahoe, July 28, 1948, *Godfrey* 48337.

An additional North Carolina station for a plant, the range of which Fernald (*RHODORA* 44: 460, 1942) extended northward from Florida to New Hanover Co. in southeastern North Carolina

when he identified and cited an hitherto undetermined Godfrey specimen from there.

EUPATORIUM CORDIGERUM Fern. **HERTFORD COUNTY**: upland woods, Camp Co. Forest 2 miles northeast of Como, October 24, 1948, *Fox, Boyce & Moreland* 2113; **BERTIE COUNTY**: low ground, near cane-depression, on N. C. Rt. 308, 7 miles northwest of Windsor, May 22, 1948 (not flowering), *Fox & Godfrey* 1590; **MARTIN COUNTY**: swampy pasture on U. S. Rt. 64, 3 miles east of Robersonville, October 24, 1948, *Fox, Boyce, & Moreland* 2135; **PAMLICO COUNTY**: abundant in a shrub-bog, northeast side of Neuse River, east of Arapahoe, July 26, 1948, *Godfrey* 48346; **WAKE COUNTY**: abundant in pastured boggy swale at Method, just west of Raleigh, September 24, 1948, *Godfrey & Fox* 48541; clearing along roadside at edge of a branch-bay, just southeast of Willow Springs, October 15, 1948, *Godfrey & Fox* 48660.

Fernald (*RHODORA* 45: 477, 1943) described this as a variety of *E. rotundifolium* L., and in addition to his Virginia material, placed a Godfrey collection from northeastern North Carolina here. Later, Fernald (*RHODORA* 47: 192, 1945) raised it to specific status and stated that it was characteristic of river-marshes, swales, and bogs of the coastal plain of southeastern Virginia and North Carolina. Our collections contribute to a fuller knowledge of its distribution in North Carolina. The Method station in Wake County is on the outer piedmont.

EUPATORIUM CUNEIFOLIUM Willd. **BRUNSWICK COUNTY**: abundant in coarse sand, bulldozed clearing in scrub-oak areas back of the beach, Long Beach, August 23, 1948, *Godfrey* 48439.

For this species there is but one record of occurrence north of South Carolina. Fernald (*RHODORA* 37: 446, 1935) reports it for southeastern Virginia. The plants at our Long Beach station were numerous over a rather extensive dry, sandy area, and were uniformly much branched at the base. Many of them had literally dozens of erect and semi-erect branches.

EUPATORIUM LEPTOPHYLLUM DC. **BRUNSWICK COUNTY**: sandy peat, middle of margin between pond and pine-barren, Orton Plantation, September 27, 1941, *Godfrey* 10038 (in herb. U. N. C.).

Heretofore unrecorded for North Carolina, its range is given by Small (1933) as "coastal plain, Fla. to Miss. and S. C."

EUPATORIUM LINEARIFOLIUM Walt. (*E. tortifolium* Chapm.). **BRUNSWICK COUNTY**: coarse sand, plowed fire-lane across long-

leaf pine, turkey-oak sand-ridge, Orton Plantation, 10 miles north of Southport, August 19, 1948, *Godfrey* 48385; CUMBERLAND COUNTY: sandhills, near U. S. Rt. 301, 8 miles south of Fayetteville, August 27, 1947, *Fox* 1031; HARNETT COUNTY: pineland near Lillington, Aug. 5, 1938, *Godfrey* 5639 (in herb. Gray); WAKE COUNTY: sandy ridge, very near Wake-Harnett County line on road between Fuquay Springs and Duncan, October 16, 1948, *Godfrey & Fox* 48667; SAMPSON COUNTY: pineland near Roseboro, August 5, 1938, *Godfrey* 5722 (in herb. Gray).

Fernald (RHODORA 42: 481, 1940) extended the range of *E. tortifolium* from South Carolina to Virginia, but there are no published records of its occurrence in North Carolina.

EUPATORIUM RECURVANS Small. MARTIN COUNTY: swale near Williamston, Oct. 15, 1938, *Godfrey* 7022 (in herb. Gray); DARE COUNTY: 10.3 miles north of Dare County line, roadside, unimproved No. 264, September 20, 1940, *Radford & Stewart* 808 (in herb. U. N. C.); CRAVEN COUNTY: roadside near Ft. Barnwell, October 13, 1938, *Godfrey & White* 6842 (in herb. Gray); PAMLICO COUNTY: old field, coarse sand, sand-ridge, 2 miles southwest of Arapahoe, July 28, 1948, *Godfrey* 48356; CARTERET COUNTY: pineland at Sea Level, September 1, 1938, *Godfrey* 6404 (in herb. Gray); BLADEN COUNTY: near White lake, October 6, 1933, *Oosting & Blomquist* 33637 (in herb. Duke); BRUNSWICK COUNTY: swale, Caswell Beach, November 15, 1947, *Godfrey* 12074.

Fernald (RHODORA 44: 461, 1942) extended the range of this species to Southeastern Virginia from Georgia and Southeastern South Carolina. The records here given close the gap to some extent. Our field observations during the past summer indicate that this is one of the more ubiquitous of the Eupatoria on the outer coastal plain of southeastern N. C.

LIATRIS GRAMINIFOLIA (Walt.) Willd., var. SMALLII (Britton) Fern. and Grisc. STOKES COUNTY: scattered plants in chestnut-oak woods, around the parking area, Hanging Rock State Park, October 2, 1948, *Godfrey & Fox* 48575.

Gaiser (RHODORA 48: 253, 1946) cites three North Carolina collections, all from the higher mountains. Ours is from a low, outlying mountain range considerably east of the Blue Ridge.

CHRYSOPSIS ADENOLEPIS Fern. CUMBERLAND COUNTY: sandy turkey-oak community, 2 miles southwest of Fort Bragg, October 2, 1937, *Oosting* 1611 (in herb. Duke); WAKE COUNTY: sandy ridge, very near the Wake-Harnett County line on the road be-

tween Fuquay Springs and Duncan, October 16, 1948, *Godfrey & Fox* 48668; abundant in railroad ballast and adjacent sterile gravelly-clay soil along the right-of-way at McCullers, September 17, 1948, *Godfrey* 48533.

Fernald (*RHODORA* 44: 471, 1942) described this species from specimens from Moore County; he ascribed only two collections, both from there, to it. Those listed here are the first to be reported subsequent to that time.

CHRYSOPSIS CORRELLII Fern. PENDER COUNTY: plowed savanna, 1 mile from Sampson County line, south of Harrell's Store on U. S. Rt. 421, October 29, 1948, *Godfrey & Fox* 48712; BRUNSWICK COUNTY: coarse sand in an open pine-barren, Orton Plantation, September 27, 1941, *Godfrey* 10033 (in herb. U. N. C.); coarse sand, bulldozed areas in scrub-oak barrens, behind beach, Long Beach, August 23, 1948, *Godfrey* 48447.

Following his description of this plant, Fernald (*RHODORA* 44: 470, 1942) cites but four collections, two from Bladen County and one from Scotland County, N. C., and one from Colleton County, S. C. In his description, Prof. Fernald used the phrase "*Perennis subcespitosa*." Interestingly, we noted in the field, both at the Long Beach and Pender County stations, that the abundant plants were characteristically in very large, tight tufts, sufficiently large in the one case, at least, for twenty ample specimens to be made from an average-sized clump.

CHRYSOPSIS PINIFOLIA Ell. HARNETT COUNTY: sandridge, bordering pocosin, on U. S. Rt. 15A, 1 mile south of Bunn Level, August 28, 1948, *Fox & Whitford* 1839.

Small (1933) indicates that this plant is known only from the sandhills in Taylor County, Georgia. Dr. Wilbur Duncan kindly checked in the Gray Herbarium, the U. S. National Herbarium, and the New York Botanic Garden, and informs us that there is no material at those places from anywhere except Taylor County, Georgia. Also he checked a duplicate of our collection and concurs in our determination.

ANAPHALIS MARGARITACEA (L.) B. & H. PAMLICO COUNTY: abundant in sandy old fields at Arapahoe, July 13, 1948, *Godfrey* 48322; ONSLOW COUNTY: very abundant in an old field, 2 miles south of Jacksonville on U. S. Rt. 17, June 21, 1948, *Godfrey* 48201; JONES COUNTY: wet sandy soil at Trenton, July 11, 1938, *Robert Gray* (in herb. Duke).

Small (1933) gives the range of this species as "North Carolina to Alaska, Ontario, and Newfoundland, in the coastal plain only N." The collections here cited are from the outer coastal plain. Allard (*Claytonia* **3**: 12, 1936) records it for Augusta County, Va., in the Alleghenies at 4,400 ft. (only one small specimen), and states that there were no specimens in the U. S. National Herbarium from south of Pennsylvania. McAtee (*Journ. Elisha Mitch. Sci. Soc.* **35**: 74, 1919), however, had reported it in a list of plants for Church's Island in Currituck County, N. C., the most northeastern county of the state.

HELENIUM FLORIDANUM Fern. **ONSLow COUNTY**: abundant in grass-weed border along roadside from Jacksonville to Verona along U. S. Rt. 17, June 21, 1948, *Godfrey* 48203.

An extension of range northward of a plant which Fernald (*RHODORA* **45**: 494, 1943) described, largely on the basis of the pappus-pales, as being distinct from *Helenium nudiflorum* Nutt., and which, on the basis of specimens then available, he found to be localized in northern Florida. A characteristic of our specimens, noted in the field, but not so apparent in the dried condition, was their clammy quality. A collection of *H. nudiflorum*, with pappus-pales of the typical wide-ranging plant, was made in Craven County a few days earlier (roadside grass-weed border and in shallow roadside ditch, 3 miles northwest of New Bern on U. S. Rt. 70, June 8, 1948, *Godfrey* 48149). Those specimens were much less puberulent throughout and lacked the clammy quality entirely. In their superficial aspects the plants from the two places appear much alike.

MADIA SATIVA Molina. **ROCKINGHAM COUNTY**: on farm of W. D. Brown, about ten miles east of Reidsville, May, 1948, *I. Van Sharpe*.

This collection was sent to our department for identification, and it represents an additional station for a western weed reported but once before for the state. Alexander (*Castanea* **5**: 92, 1940) first reported it from Macon County, N. C. There is also a specimen in the Duke University Herbarium from Durham County, and Blomquist and Oosting (1948) include it in the piedmont flora, presumably on the basis of that specimen.

CREPIS PULCHRA L. **NASH COUNTY**: ballast, ACL railroad, north of Tar River, Rocky Mount, May 22, 1948, *Fox & Godfrey*

1641; WAKE COUNTY: railroad ballast, SAL R. R., N. C. State College campus, Raleigh, May 26, 1948, *Godfrey* 48097; CABARRUS COUNTY: roadside grass-weed border, just west of Cabarrus-Stanly County line, on N. C. Rt. 73, May 9, 1948, *Godfrey, Fox, & Boyce* 48084.

This species is new to the Small's Manual range; it was abundant in the three localities from which the above cited specimens were taken. Freeman (*Castanea* **6**: 78, 1941), reporting it for Rockbridge County, Virginia, makes the comment, "This European species appears to be becoming more abundant and more widely distributed in Virginia."

LITERATURE CITED

- BLOMQUIST, H. L. AND H. G. OOSTING. 1948. A Guide to the Spring and Early Summer Flora of the Piedmont, North Carolina. Fourth Rev. Edition.
- COKER, W. C., AND H. R. TOTTEN. 1945. Trees of the Southeastern States, 3rd. Edition. University of North Carolina Press, Chapel Hill, North Carolina.
- CROOM, H. B. 1837. A Catalogue of Plants, Native and Naturalized, in the Vicinity of New Bern, North Carolina; with Remarks and Synonyms. G. P. Scott and Co., Printers. New York.
- , AND H. LOOMIS. 1833. Catalogue of Plants Observed in the Neighborhood of New Bern, North Carolina. Spectator Office, New Bern.
- CURTIS, M. A. 1834. A Catalogue of Plants Growing Spontaneously Around Wilmington, North Carolina, with Remarks on New and Obscure Species. *Boston Jour. Nat. Hist.* **1**: 82-141.
- . 1867. Botany; Containing a Catalogue of the Indigenous and Naturalized Plants of the State. *Geol. and Nat. Hist. Surv. of N. C.*, Part III. Raleigh.
- FASSETT, N. C. 1939. The Leguminous Plants of Wisconsin. Univ. of Wisc. Press, Madison.
- GALE, SHIRLEY. 1944. Rhynchospora, section Eurhynchospora, in Canada, the United States, and the West Indies. *RHODORA* **46**.
- SMALL, J. K. 1933. Manual of the Southeastern Flora. Published by the Author. New York.
- WOOD, T., AND G. MCCARTHY. 1886. Wilmington Flora; a List of Plants Growing about Wilmington, N. C., with Date of Flowering, with a Map of New Hanover County. *Jour. Elisha Mitchell Sci. Soc.* **3**: 77-141.

BOTANY DEPARTMENT,

NORTH CAROLINA STATE COLLEGE, Raleigh.